THREADED PUSH BROOM LOCKING CLIP

BACKGROUND OF THE INVENTION

Push brooms have long been used as an effective cleaning tool. The standard push broom consists of a separable elongated handle and a brush or cleaning head. Usually the brush head is made up of bristles and a rigid bristle supporting base, often made of wood, plastic, light metal, or other hard material. The base routinely has two centrally located holes in its upper surface for receiving the handle. One hole is located on one side of the head and the second hole is located on the other side of the head. This allows the handle to be switched from one hole to the other, when the bristles become worn in one pushing direction. The holes are threaded to allow engagement with the end of the handle which has corresponding threads. The handle is easily screwed into the base in the cleaning use mode of the broom.

However, while this handle and cleaning head configuration provides a functional push broom, shipping, transport, and merchandising of these brooms presents a problem. Distribution of push brooms, when forwarded from the manufacturer to wholesalers, retailers, and vendors already connected in the cleaning use mode, i.e., with the handle secured to the threaded hole in the head, results in a cumbersome, awkward and difficult situation. Shipping brooms in this fashion also takes up valuable cargo and container space. Displaying assembled push brooms for retail merchandising and sale presents the same handling and spatial problems.

Push broom manufacturers have attempted to address these problems by shipping their brooms with the handles and heads separated and attached side by side. Handles and heads are attached with their respective longitudinal axii in parallel relationship. While this has, to a large extent, solved the handling and spatial problems, actually attaching the handles and heads so that they remain secured during transport and shipment and then during the merchandising and display

process continues to be a problem. Handles and heads routinely become separated between the time of shipment from the manufacturer to the ultimate sale to the consumer. This causes inconvenience and inefficiency during transport, results in debris and waste from separated broom components and wrappers, leads to actual loss of components, and presents unattractive merchandising displays - all resulting in a general and substantial loss of sales.

In the past, manufacturers have attempted to attach push broom head and handles for transport and merchandising by means of string or twine, twist ties, and a variety of plastic and metal clips. One such spring clip type device is disclosed in U.S. Pat. No. 4,550,829. However, none of the prior broom handle to head attaching means which are designed exclusively and solely for attaching broom heads to handles for transport and merchandising purposes provides a system to guarantee an effective, practical, and economical system, which allows for the transport and merchandising of a push broom without handle to head separation.

SUMMARY OF THE INVENTION

It is thus the object of the present invention to overcome the limitations and disadvantages of prior push brooms and hand cleaning push tools.

It is a general object of the present invention to provide an efficient, effective, and economical means of securing the handle of a push broom to its broom head during the transport and merchandising of the push broom.

It is another object of the present invention to provide a push broom locking clip which will effectively and efficiently secure a push broom handle to the broom head, without risk of separation during transport and merchandising of the push broom.

It is a further object of the present invention to provide a push broom locking clip which uses the threaded end connection of the push broom to secure the handle to the broom head during transport and merchandising of the broom.

It is still a further object of the invention to provide an efficient, effective, and economic means of securing the push broom handle to the cleaning head in order to save valuable cargo and container space, to ensure distribution and sale efficiency, to prevent loss of broom components during transport and merchandising, and to save resources needed to produce and dispose of non-reusable handle to head connectors.

These and other objects are accomplished by the present invention, an integrally formed locking clip. The clip has a unitary body and downwardly extending lateral side arms. The clip is made of resiliently flexible material which allows the side arms to extend over and around the top support member of a push broom head and attach to the broom head. The clip has an upper section consisting of a threaded opening which is configured to accept and threadably engage the threaded end connection of the handle of the push broom. When so engaged, the handle is securely mounted on and along the longitudinal axis of the broom head. The upper section of the clip may be formed of a closed circular threaded ring or a partially opened threaded cradle.

The novel features which are considered as characteristic of the invention are set forth in particular in the appended claims. The invention itself, however, both as to its design, construction, and use, together with additional features and advantages thereof, are best understood upon review of the following detailed description with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows the push broom locking clip of the present invention.

FIG. 2 shows the positioning of the handle of a push broom on the broom head, prior to the handle being secured within the locking clip of the present invention.

FIG. 3 shows the manner in which the threaded end connection of the handle is secured within the locking clip of the present invention.

FIG. 4 shows the handle secured in position on the broom head, within the clip of the present invention.

FIG. 5 shows an alternate embodiment of the push broom locking clip of the present invention.

FIG. 6 shows the positioning of the handle of a push broom on the broom head, prior to the handle being secured within the locking clip of the present invention.

FIG. 7 shows the manner in which the threaded end connection of the handle is secured within the locking clip of the present invention.

FIG. 8 shows the handle secured in position on the broom head, within the clip of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Push broom locking broom clip **1,** shown in FIG. 1, is a unitary body comprising downwardly extending side arms **2** and **3** with inwardly extending lips **4** and **5** respectively. The upper section of clip **1** comprises partially open cradle **7** with thread **8** and opening **9.** Clip **1** is an integral unit made of resiliently flexible material, such as molded plastic.

In use, clip **1** is mounted on broom head **11** by placing the clip over the top of the support member of the head and slightly extending side arms **2** and **3** outward. As side arms **2** and **3** close over and around the top of head **11**, lips **4** and **5** secure the clip onto the head, as seen in FIG. 2. Push broom handle **12** is then aligned along the longitudinal axis of head **11** and positioned in

alignment clip **10**. Clip **10** has an upper section of cradle-like configuration and is secured to head **11** in a similar manner as clip **1** is secured to the head **11**. After handle **11** is positioned in clip **10**, it is slid along the top of head. When handle **12** reaches clip **1**, threaded end connector **13** of the handle is turned about thread **8** within opening **9** of cradle **7** of the clip, becoming threadably engaged therein. This securely attaches handle **12** on and along the longitudinal axis of head **11**.

FIG. 5 shows an alternate embodiment of the locking clip of the present invention. Clip **20** is also a unitary body comprising downwardly extending side arms **22** and **23** with inwardly extending lips **24** and **25** respectively. The upper section of clip **20** comprises ring **27** with thread **28** and opening **29**. Clip **20** is an integral unit, made of resiliently flexible material, such as molded plastic.

In use, clip **20** is mounted on broom head **11**, by placing the clip over the top of the support member of the head and slightly expanding side arms **22** and **23** outward. As side arms **22** and **23** close over and around the top of head **11**, lips **24** and **25** secure the clip onto the head, as seen in FIG. 6. Push broom handle **12** is then aligned along the longitudinal axis of head **11** and positioned in alignment clip **10**, described with reference to the previous embodiment. After handle **11** is positioned in clip **10**, it is slid along the top of head **11**. When handle **12** reaches clip **20**, threaded end connector **13** of the handle is turned about thread **28** within opening **29** of ring **27** of the clip, becoming threadably engaged therein. This securely attaches handle **12** on and along the longitudinal axis of head **11**.

The locking clip of the present invention allows for an effective and efficient means of securing a push broom handle to its broom head, from transport and merchandising, without risk of separation. The clip also allows for the easy and ready removal by the consumer of the push broom handle from the transport/merchandising mode in which the push broom is distributed by the

manufacturer. The consumer can simply convert the push broom to the cleaning use mode by removing the handle from the head and threadably engaging it into one of the threaded connection holes in the head.

When transporting the push broom, the consumer can also convert from the cleaning use mode by removing the handle from the threaded hole in the head and replacing the handle over the head, within the locking clip, once again.

Certain novel features and components of this invention are disclosed in detail in order to make the invention clear in at least one form thereof. However, it is to be clearly understood that the invention as disclosed is not necessarily limited to the exact form and details as disclosed, since it is apparent that various modifications and changes may be made without departing from the spirit of the invention.